The Vireya Venture

Issue No. 61 July 2006

Editorial

Although subscription numbers are steadily climbing (which is great – thank you everyone) the contributions to this newsletter are falling. Still, we're not going to complain. Must not be much going on out there in VireyaWorld.

Consequently, we have had to fill this issue with an article about some personal fun with vireyas. Hope you like it!

We would prefer to have articles by you, the subscribers, so please send something to:

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From Sherla Bertelmann in Hawaii

June 2006

Aloha Graham & Janet,

In our June issue of the Vireya Vine (Hawaii Chapter-ARS's newsletter) we ran an article called "The Silent Ones". The topic dealt with plant diseases and insects that have come into our islands, as well as a couple not yet here. SOD, sudden oak disease (*phytophthera ramorum*) is one that is not yet here.

After issuing the newsletter we learned of the newest phytophthera (*p. kernoviae*) found in New Zealand. So far, it's been found in only two spots; one was a cherrimoya tree. This is so saddening.

The world is truly "global" and with the population also becoming more "global" so will the various new introductions into foreign places. For us in Hawaii it also means that

Harry Wu seedling - open pollinated; nicknamed "Glowing Embers". Photo from Sherla Bertelmann.

obtaining new vireya material is also going to be harder. But not just for us, for everyone.

This brings me to vireya seeds. I deeply feel growing out vireya seed is the future. It will be the only safe way. Our chapter runs the vireya seed distribution program. We've been very fortunate to have received seeds from many noted hybridizers over the years and I thank them for their support. We've also, personally, grown many vireyas from seeds. It is exciting waiting to see the new flowers and seeing the new generation of vireya.

There are many, many crosses out there just waiting to be made. Think of all the lesser known species some of you have that could be hand-pollinated with it's self or crossed with some other beauty you love. It's a great way to keep the group going. Even open-pollinated seeds can yield beauties. A couple of hybrids that seem to make excellent seed parents are 'Harry Wu' and 'Lenore Frances'.

Please may I encourage more hybridizing of vireyas. And, please may I ask you to remember our chapter for any of your extra seed. You never know where the seed will go, perhaps to South Africa, India, Belgium, England, Australia or even Singapore – a few

Graham Snell's cross: Gardenia Odyssey X Australia II. Photo by Sherla Bertelmann.

Of the places vireya seed has been sent. If you have extra seed, the chapter's mailing address is:

HI Chapter – ARS, P.O. Box 1963
Kea'au, Hawaii 96749 USA

You may also contact us through
vireya@pacificislandnursery.com

Thank you very much, Viva Vireya
Sherla Bertelmann, President HI Chapter-ARS

Ed.
Sherla, I endorse your comments about seed being the likely future and not plant imports without very strict quarantine controls. I also encourage people to undertake self-pollination of uncommon species and hybridizing and to distribute seed. I too love seeing what comes out of these little "surprise boxes".

May I inject a word of wisdom though, originally from Lyn Craven: A big beef he has is that people are not rigorous about destroying hybrid plants of little value. The "pro-lifers" of the vireya world have merely created a catastrophe with defectives being allowed to persist. If something turns out not to be good, and one does not want to keep it for backcrossing or selfing etc, then the whole stock should be destroyed.

More from Sherla Bertelmann in Hawaii

July 2006

Aloha Graham & Janet, It is I again, Sherla.

I recently talked to 3 people who had different problems happening with their vireyas. I am hoping we might get some thoughts on these problems.

The first has to do with powdery mildew and the second with petal blight. Both gentlemen live near the Los Angeles area of California. The third problem was split corollas on mature vireyas. This problem came from a gentleman in Belgium.

Does weather have a lot to do with these problems? Are there prevention strategies? Any recommended solutions? etc.

Much thanks, Sherla Kea'au, HI

Ed.
Sherla. The first two are perennial problems that have often been addressed. But they remain as problems so there can only be prevention/maintenance and not a cure. I can give you what I know personally and what I can elicit from the WWW.

Powdery Mildew: Apparently several species of Powdery Mildew occur on vireyas. It can affect all parts of a plant but is most common on leaves and stems. Infection is spread by spores and it can become an epidemic very quickly (days). The problem is generally seen in summer months with higher humidity, but in milder climates can also occur in winter. Overcrowding of plants and poor air circulation are often to blame.

Hygiene and chemical control are the common treatment strategies. There are many commercial fungicides for Powdery Mildew (and Petal Blight and Rust) but they often have different names in different countries. One needs to go see what is available locally. The most useful strategy is to look on the WWW. I can recommend the following site from the Royal New Zealand Institute for Horticulture: *http://www.rnzih.org.nz/pages/powdery-mildew.htm* The safest options might be to try using Bicarbonate of Soda (Baking Soda, Sodium bicarbonate) or milk (recipes on the NZ website).

Petal Blight: Another fungal disease that is spread by windblown spore and once the symptoms are identified control is often too late. Affected plants will have flowers that appear to be water soaked with petals a brown colour. Flowers will not readily fall from affected plants and tend to stick to foliage. Cleaning up fallen flowers and those on bushes will help reduce infection in following years.

Bayleton is a commonly available systemic fungicide that claims to have protective, curative and eradication actions against Petal Blight. It can be absorbed by leaves and roots.

Split Corollas: I have noticed this problem on some of my vireya flowers and I'm sure others have as well. It seems to be restricted to some varieties but does not appear in others and hence could be a genetic characteristic. It seems to be expressed more in certain weather conditions, commonly during winter. Plants with split corollas at one time can have well-formed flowers at the next flowering.

I wonder if split corollas have ever been observed in natural stands of vireyas in New Guinea? Maybe it's a feature of growing these plants in more temperate climates and forcing them to grow and flower too much? There is not much information about it on the WWW.

Dear Subscribers: Contributions on these issues from other T V V subscribers would be welcome. Ed.

A Dialogue with Greg Andrews in San Diego

June 2006

From Greg Andrews
Hello Graham and Janet, Thank you for sending The Vireya Venture newsletter. I finally have my computer able to open it and have just read the past issues as well. A great newsletter. I really enjoy it.

All the best, Greg in San Diego, California.

From Graham Price
Greg, Thanks for your very kind comments. What is it like growing vireyas in San Diego? Do you have to do anything to moderate the heat there? Are you plants in the ground or in pots?

Cheers Graham

From Greg,
Hi Graham, All my vireyas are in the ground. Heat is not so much an issue here as water quality. I am in coastal San Diego, which means we get a moderating influence from the vast Pacific, cooling our temperatures down. Ocean temperatures vary from 57F (13.9°C) in winter to about 68-70F (20-21°C) in summer. However, water quality is poor since all our water is imported. We are on the tail end of the Colorado River. Lots of dissolved salts and particulates. We get only 10 inches of rain annually. All this leads to foliage problems like brown tipping, especially if they dry out. So I filter the water I use on my vireyas (dual string and carbon) to lessen the problem.

I grow species and hybrids totalling about 150 plants and do some hybridizing. I really love to watch these plants growing and flowering all year long. I grow them in raised beds in and around my Palms and Cycads with Ginger, Clivia, Camellia, Azaleas, Alstomeria, Brunselsia and more. Vireyas really add a lot to the garden.

Again I really appreciate your sending me The Vireay Venture to see what is happening down under. They are fun to read and learn from and the pictures are great.

Take care, Greg

From Graham Price,
Greg, I do not want try to tell you what to do about your water. You live there and are dealing with it. We have good quality water here in Melbourne so we don't use anything.

In my work I have had some experience in filtering water and have been through the literature in detail. First I must assume that your filters are the same as I know them - cartridges, one type with a string-like fibre of different fineness wound round a frame and the other filled with activated charcoal or carbon. The fibre type filters are designed to take out suspended sediment of different sizes and the carbon type is designed to remove gases and odours. Unfortunately you will also have quite a lot of dissolved salts in the water that won't be removed by these filtering media. It is these salts that will be doing the damage.

As far as I know there are only two ways to get salts removed easily from water (ie without great expense). One is by solar evaporation and the other by reverse osmosis. You may already be using one of these to produce good drinking water.

Solar evaporation is essentially distillation of the water into steam (leaving the salts behind) and its recondensation and collection as pure water. It would use the sun's light and heat as

the power source. A small system could probably be set up for less than $100.

Reverse osmosis is where water pressure forces water molecules to pass through a membrane filter with small holes that are only big enough to let the water molecules through and blocks the larger salt molecules. This may be more expensive and it does have the disadvantage of being somewhat wasteful of water, but it may produce more water per day than the solar distillation method.

Have you ever considered using either of these methods to produce at least some fresh water for your plants? You could mix in some 'natural' tap water to produce a larger quantity of acceptable quality water for the plants.

Cheers Graham

From Greg,
Dear Graham, Thank you for your reply. I have used reverse osmosis in the past but it is a bit expensive as a filter for garden water. I use it for drinking water only. I need too much water for the vireyas, especially in the summer. We have very low humidity for a coastal location. The filter I had lasted less than 1 year and was about US$100, so I have settled for the string/carbon.

You are exactly right on the salts. They are not removed and are the cause of brown tipping. It is something I have to live with for now. The filter I have seems to help somewhat as there is some improvement with it.

Greg

Ed.
Poor water quality is probably also an issue for vireya growers and gardeners in general in other parts of the world. I'm sure that Greg would like to hear what others have done to address the problem. Can people write and let us all know what they do?

Here in Australia the whole continent seems to be continuously in some degree of drought, with less and more variable rainfall and low water levels in dams. Water is becoming much more expensive here, as it probably is in other places. I saw a bottle of drinking water in a shop yesterday (500ml) with a price tag of $5.00. Sure glad I don't have to water my vireyas with that stuff.

Fun with Vireya Identification

July 2006

By Graham Price

I have been having some fun lately trying to identify several of the vireyas we put into one of the garden beds around our apartment building, which we described and showed a photo of in the last issue of T V V (#60). Several of these plants were in flower and others have large buds coming on, so the issue of correct identification was intriguing.

In the late 1980's I acquired six plants that have proved to have attractive large white flowers (pure white, white/pink or white/cream), all beautifully scented. They were variously labelled as the species *R. konori*, a cross between two forms of *R. konori*, or were obviously mislabelled. Photos of flowers from four of these plants are shown on this and the next page.

Flower from correctly-labelled R. konori. Possibly the PNG form – if such a thing is still recognized.

R. konori (Irian Jaya) x R. konori (White Giant). See T V V #56 for more details about this plant and/or its siblings.

With many vireya the form and colour of the flower may not be distinctive and there can be significant changes in different seasons (summer/winter), with different growing conditions and between the different forms of each species. Such differences can be clearly seen in the various photographs for species presented on Chris Callard's excellent website (*www.vireya.net*), with the seven photos of *R. konori* being good examples.

I was hoping that at least one of these mislabelled plants was actually *R. superbum*, an example of which had been displayed at the Aust. Rhodo. Soc. Victorian Branch's recent Vireya Show here in Melbourne.

So, as with most matters technical, I contacted the local guru on vireyas Lyn Craven, who lives in Canberra, on how to separate the two species and how a hybrid might look. Snippets from Lyn's replies are as follows:

- *The two species are easily separated as konori has hairs on the ovary and style (as well as scales) whereas superbum has scales only.*
- *R. konori is moderately variable and there are several genotypes cultivated in Australia, which can look quite different.*
- *The hairs (or lack of them) are pretty easy to see. A magnifying glass may be useful the first time just to verify, but once one knows what the hairs look like, it is a pretty routine observation.*
- *With vireyas, and perhaps pretty much with most plants, the hybrid is intermediate, so one would expect the ovary to have both scales and hairs. Other factors I think can sometimes come into play and one gene may suppress the effect of another but with homogeneous parents this may usually not occur.*
- *Check the leaves of your hellwigii/zoelleri hybrid, there should be both dendroid and sessile scales.*
- *In general, if a plant keys out to a particular species, but manifestly is not that species as the other characters do not agree, then one has either a new species or perhaps a hybrid. With plants of vireya in the Melbourne region, the likelihood of an undescribed species being unknowingly introduced to cultivation is so remote that it can be ignored.*

I am very indebted to Lyn for these comments and they helped me a lot.

Cross checking with Sleumer (Flora Malesiana 1966) and George Argent's new book (Rhododendrons of subgenus Vireya, Royal Hort. Soc. 2006) provided more details on the two species. I summarize here:

Flowers from two wrongly-labelled plants. The top one is possibly R. konori but the bottom one may be a hybrid.

- **konori**: ovary 10-15 x 4-7mm, sub-cylindrical, somewhat tapering towards the base and abruptly tapering distally, densely covered with yellowish, stiff, forwardly directed hairs which cover the numerous scales (deeply stellately divided, dendroid, each on top of a paler epidermal tubercle).
- **superbum**: ovary10-12 x 4mm, elongate-conical, densely covered with brown, stellate scales, somewhat abruptly narrowed distally.

I decided to learn about scales and hairs and to have a close look at the ovaries of the two wrongly-labelled plants using an optical microscope. First I had to check what stellate and dendroid scales looked like (see Argent 2006, p 362 for sketches and p23 for EM photos). I imagined that hairs should be fairly simple to recognise and to differentiate from scales.

Well, it wasn't quite as easy as I hoped. The ovary of the first flower (the white one above with pink spots in the corolla throat) was densely covered with white (colourless) hairs but I couldn't see any scales. There seemed to be a dense covering of hairs over everything;

ovary, half the style, stamens, inside the corolla tube and the pedicle. The photos below show the hairs on these floral parts (again, see Argent 2006, p 363 for sketches).

I couldn't see any scales anywhere so I looked at the back of a leaf where I knew there should be some scales. Sure enough, there they were. Much darker (brown) and obviously old with arms broken off, they were dendroid and standing on a thin epidermal tubercle (a little stalk from the leaf surface).

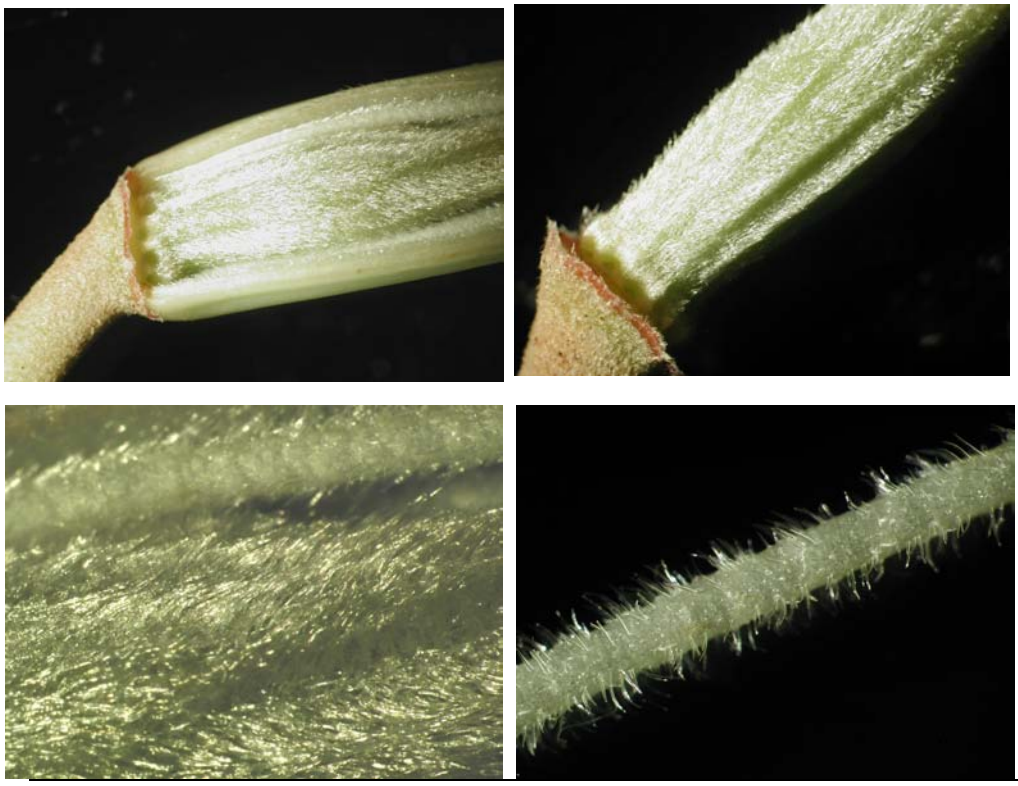
Looking at the flower of the second plant (the pink one on the previous page) proved a little easier. Although there were abundant hairs I could also recognize numerous colourless scales underneath the hairs. These scales were similar to those described above from the leaf but their deeply divided dendroid form made the arms look very much like hairs.

Scraping off these surface structures and cutting into the ovary surface to reveal a cross-section didn't help much because of the presence of a mass of nondescript loose tissue immediately above the ovary surface and mixed among the bases of the hairs and the scale tubercles. Fortunately at the distal end of the style the number of hairs and amount of nondescript tissue decreased and scales were more obvious.

Back to the first plant (white flower) for another look and sure enough this time I could recognize the scales beneath the hairs and among the non-descript tissue on the surface. The scales were slightly different in shape (less deeply divided dendroid) and less abundant, but generally were much the same.

Microscope photograph showing two dendroid scales on the underside of a konori leaf, one scale standing upright and the other tilting to the right.

Overall the general structure, distribution and mixture of hairs and scales on the flower parts of these two plants were slightly different but not sufficiently to be able to say they were clearly different plants. The presence of simple hairs on both plants indicates that neither can be *R. superbum*. As Lyn Craven said, these hairs are quite easy to see by eye or with a hand lens and so the distinction, at least between *konori* and *superbum*, is obvious.



Hairs covering all surfaces in the lower part of the corolla of ? R. konori. Top left: partially exposed ovary with stamens and part of the flower tube on each side. Top right: fully exposed ovary covered with hairs. Bottom left: close-up of dense hairs on ovary and a stamen. Bottom right: Sparser hairs on the upper part of a stamen.

Whether either of my two mislabelled plants is truly *R. konori* is another matter and will require more research by me.

On the technical side, Murray McAlister of the Vic. Branch Aust. Rhodo. Soc. told me he was trying to get the Society to purchase a reflected light optical microscope that members could use. I fully support his efforts and offer to help in any way I can. However, even with the good optical microscope I used at The University of Melbourne the detailed surface structures were difficult to see and experience was required. But, one has to start in order to get experience.

The biggest problem I had was to get a combination of high magnification and enough material in focus at one time (a large focal depth) to be able to take decent photos. A scanning electron microscope would be a help because it has a tremendous magnification range and huge focal depth. However, I have to pay real money to use the one at the Uni so I'm not rushing.

So what is next for me and this question of identification of vireyas? I have a plant labelled *hellwigii x hellwigii* which John Rouse produced in February 1994. I presume a plant of *R. hellwigii* was "selfed" so it is still the true species.

I note that *R. hellwigii* and *R. superbum* differ mainly in their flower colour (red vs white/cream/pink) and that the scales on the leaves and ovary are of different shapes (both dendroid but one flattened or on a very short stalk the other standing up). Neither has hairs. I look forward to having a good look at leaves and flower parts when this plant flowers.

Flowers from the plant *R hellwigii x R. zoelleri* that will come under close observation.

I also have a plant *R. hellwigii x R. zoelleri* (photo below) that looks very much like straight *R. hellwigii* so I can check on what changes hybridization produced.

This little foray into plant identification and botany has increased my appreciation of vireya species. I can feel a small heart tug to collect more and to focus less on hybrids. I must find out which vireyas species are now actually in cultivation in Australia.

Oh! I just checked in the paper by Bob Withers titled: "A History of the Introduction of Vireya Rhododendron Species into Cultivation in Australia", which appeared in The Rhododendron, The Journal of the Australian Rhododendron Society, Vol 31, 1991. *R. lochiae* (? *viriosum* or *lochiae*) was the first to appear in Australia in1936. By 1973 there were 48 species, in 1976 there were 81 and by 1991 there were ~120 species.

I guess since then there have been a few more species introduced into Australia. Maybe someone out there can tell me which ones and where they are? But where would I put them all?

Cheers for now, Graham Price

Vireyas into Tahiti

From Neil Puddey July 2006

Whilst holidaying with our Tahitian friend Myriama and her family, she took us out for the day to enjoy a feature of the July celebrations in Tahiti called the Heiva (Tahitians please excuse the spelling). The Heiva has, as part of the programme, a market centre where people from all the Islands of Tahiti come to offer their products and crafts.

Walking around on a 30 degree centigrade winter's day looking at Pareo (colourful sarongs) with the girls soon had me looking for a plant stall. At the far end of hundreds of stalls I spied plants and headed off. Within 2 minutes I had found a Tahitian lady with 2 large Vireya, tall and open but with nice yellow trusses dancing above the palms and other potted stock.

I couldn't help but comment to Annie (the stall owner) that I grow these plants in Australia. Annie's beautiful Tahitian eyes became even larger as she excitedly asked: "Can I buy from you?" "Of course!" I said, having just

exported 35 Vireya to a Hibiscus grower in Papeete and taken some for our friends' garden. Annie became quite animated and wanted to do business right away.

Sadly I have maybe 6 words of French and 2 of Tahitian so communication was poor. I excused myself and set off to find Myriama, to translate. As luck would have it, and so often is the case in Tahiti, Myriama and Annie were good friends so there was excitement that I had found Annie.

Myriama and Annie talked animatedly with bursts of laughter in a mix of French and Tahitian with eyes flashing. Just sitting with them was delight enough. Then Myriama began to translate. Annie had just this morning carried these Vireya to her stall having had them in her nursery for 5 years.

After thinking this through, a few hours later I walked in and said I can send her more from Australia. It was as if God had sent me, just too coincidental. Annie was off to the bank to pay me there and then for a large order and said she'd have the import permit by Friday.

The number Annie wanted would have just about cleaned me out. So, sweating and a little flustered, I slowed the conversation down and suggested a plan. Let me send 100 plants and she can learn how to grow them. If it works I will send more later. Phew, that idea was accepted.

Myriama , no longer just a good friend but also a business partner, helped arrange a visit to Australia for Annie to learn more about Vireyas. This also proved to be another delightful Tahitian experience as we offered to have Annie stay with us. She tried to remove a string of about 30 black pearls from her neck and give them to me for Kathy my wife to say thanks for the accommodation. Myriama had already mentioned that we would not let her pay us for hospitality.....but then Kathy does like black pearls.

Vireya have certainly enriched my life as has the contact with Tahitian locals.

Neil *npuddey@bigpond.net.au*

Ed.
A moving story Neil. Thanks. Sounds like a great excuse for many more trips to Tahiti and more lovely flashing eyes.

Simply Because of Tahiti

Last year some time

Dear Graham and Janet,

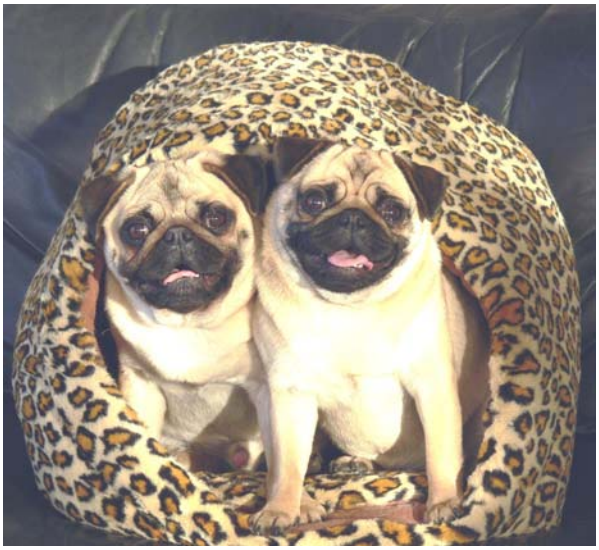
Thank you for sending us the Vireya Venture, We really appreciate the reading. Thought I would enclose a photograph from last June. Naturally, Graham Snell bred this fantastic Vireya and I have the honour of caring for it. Its called Tiara Tahiti. We have over 600 vireyas but this is my favourite.

Judith Sack, Mt Tamborine, Queensland.

R. Tiara Tahiti, a cross by Graham Snell

Ed. Thanks Judith – sorry for the delay. These large white flowers with a touch of pink are really beautiful. Aren't they?

That's the end of another issue of The Vireya Venture. The next issue of T.V.V., Issue # 62, is scheduled for production and distribution in October 2006.



Again, its goodnight from Buster & YumYum (in their "cave" for the night).